The Public Spending on National Food Security Mission (NFSM) and Rice Production in Tamil Nadu

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Abstract

NFSM scheme is one of the flagship schemes for the development farmer's livelihood. The objective is to achieve self-sufficiency in foodgrains production to improve livelihood, particularly in rice, wheat and pulses. It is providing the modern machinery, farm management and pest management. The spending for NFSM had increased from Rs. 4,882.48 crores during the Eleventh FYP to Rs. 12,350 crores during the Twelfth FYP period. It is increased threefold. The scheme is implemented in 27 states including the northern-eastern and hill states.

The paper intends to analyze the trends in area, production, productivity of rice in the NFSM and non-NFSM districts in Tamil Nadu. The paper is divided into six sections. The first is introductory in nature; the second deals with review of literature. Third describes the growth trends of foodgrain production in India. Fourth section deals with rice production in Tamil Nadu and fifth section describes that government spending to the NFSM scheme in Tamil Nadu. Lastly provides concluding remarks and policy suggestions from the study.

1. Introduction

India has achieved self-sufficiency in foodgrains production for the past four decades. The foodgrains production had increased from 50.1 Million Tonnes in 1950-51 to 264.4 MT in 2013-14. This implies a nearly five times increase over a period of time. Out of that, rice, wheat and pulse production had very eminent position in the Indian agriculture. The vast majority of the Indian people consume rice and wheat. In this context, both the food items would be in great demand for the future generation. The area and production under rice had recorded 43.9 million ha. and 106.3 MT during 2013-14.

The share of area under rice had increased to 0.17 percent from 0.41 percent during 1980-81 to1989-90 to 0.68 percent during 2000-01 to 2013-14. The production of rice had declined to 1.80 percent from 3.62 percent to 1.82 percent during the same period. It is noted that nearly half a portion of share of production declined over a period of three decades.

United Nations (2010) stated that the nutrition is given high priority in the national development like India. We need adequate food security for solving nutrition deficiency. The main objective of the food security is achieving nutritional food to the common poor in the world. In addition, it is essential to address the issues of food insecurity.

1.1. Current Issues in Food Security

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The prevalence of hunger is one of the biggest challenges to the Indian economy. In India, the percent share of hunger had declined by 8.5 percent from 25.5 percent in 1990-92 to 17.0 percent in 2012-14 (FAO, 2014). The majority of the states were facing that problem in the current situation. The calorie and protein intake of the poor had declined consistently during 1983-84 to 2004-05. The Eleventh Five Year Plan (2007-12) stated that the absolute weight and height of the people had not improved over the three decades in India. Rural calorie consumption per day had fallen from 2221 calories to 2047 calories; it had declined to 8 percent. But in urban areas, calories consumption had fallen by 3.3 percent from 2080 to 2020 calories in the same period. In rural areas, about 81 percent of the people do not consume the recommended levels of food and for urban area as the figure is to 57 percent. The share of food consumption in total expenditure had fallen during the three decades (India Today, 2011). To solve the problem in India, the Government of India implemented National Food Security Mission.

2. Review of Literature

The Government of India in its Agricultural Annual Report (2010-11) stated that through new farm practices under NFSM, nearly 50 percent of the rice districts (70 out of 143), 33 percent of the wheat districts (41 out of 138) and around 50 percent of pulses districts (74 out of 159) had recorded more than 10 to 20 percent increase in productivity compared to the base year of 2006-07.

NABARD consultancy Services (NY) conducted a concurrent evaluation of NFSM by comparing NFSM and non-NFSM districts in Rajasthan considering current year and base year (2006-07). It was found from the study that there was an excellent growth in NFSM pulses districts with 57, 134 and 49 percent growth in total sown area, production and productivity, respectively. In non-NFSM pulse districts, all three measures *viz.*, area, production and productivity had decreased by 20, 101 and 68 percent, respectively. Even though the non-NFSM districts have better irrigation sources than the NFSM districts, the yield in NFSM districts was generally higher.

Agricultural Finance Corporation Limited [AFCL] (2012) conducted mid-term evaluation of NFSM by selecting 17 states, 136 districts and 232 blocks common for all the 3 components i.e., rice, wheat and pulses. The study concluded that NFSM-Rice districts recorded yield gain of about two times and five times more than the non-NFSM districts during 2007-08 and 2008-09, respectively. The productivity of wheat in non-NFSM districts had better yield gain of 3.91 percent in 2007-08 as compared to the 3 percent increase in NFSM districts. The productivity of wheat in NFSM districts improved at 7.91 percent and 12.87 percent during 2008-09 and 2009-10, while the corresponding figures were 7.09 percent and zero percent in non- NFSM districts, respectively. In the year 2007-08, the non- NFSM pulse districts had recorded better yield by 1.14 percent over the base year of 2006-07 compared to an increase of 0.99 percent in NFSM districts. In the consecutive year 2008-09, NFSM districts showed improved performance by registering yield of 8.26 percent as against the corresponding figure of 6.99 percent in non-NFSM districts.

The paper intends to analyze the trends in area, production, productivity of rice in the NFSM and non-NFSM districts in Tamil Nadu. The paper is divided into five sections. The first is introductory in nature; the second deals with review of literature. Third section deals with rice production in Tamil Nadu and fourth section describes the government spending to the NFSM scheme in Tamil Nadu. Lastly provides concluding remarks and policy suggestions.

The study is based on secondary sources in Tamil Nadu. It obtained from Government of Tamil Nadu publications relating to area, production and productivity of rice was used to arrive at the trends in area, production and productivity in NFSM districts and Non-NFSM districts of Tamil Nadu. The secondary data on area, production and productivity of rice for 8^{th} to 11^{th} Five Year Plan was used. The compound growth rates, correlation and graphical analysis were applied.

3. Food Security in Tamil Nadu

The National Food Security Mission is generating much interest across the different states in India. Tamil Nadu is one of the states that have adopted the scheme in an effective manner. After the economic reforms period in Tamil Nadu, drastic changes are taking place due to change in the consumer behaviour, massive production in paddy crop, increase in per capita income and the increase in the human development index (e.g. educational improvement and health sector improvement). In the state, various schemes are implemented for the welfare of the farmers. National Food Security Scheme is adopted for the welfare of the farmers, particularly for those cultivating paddy and pulses.

During the 11th FYP, the area under paddy crop for the NFSM districts like Thiruvarur (4.21 percent), Nagapattinam (2.01 percent), Sivagangai (1.77 percent), Pudukottai (0.87 percent) and Ramanathapuram (0.82 percent) witnessed a positive trend with slight increase. But, the non-NFSM districts like Dharmapuri (7.56 percent), Karur (6.57 percent), Salem (5.03 percent), Thanjavur (3.78 percent), Cuddalore (3.31 percent), Dindugal (2.09 percent), Madurai (1.19 percent) a sizable increase in the area. NFSM districts like Ramanathapuram (71.11 percent), Sivagangai (31.48 percent), Thiruvarur (20.47 percent), Pudukottai (15.94 percent), Nagapattinam (14.81 percent) witnessed high growth rates in the production of paddy. But the non-NFSM districts like Krishnagiri (13.91 percent), Dharmapuri (12.74 percent), Salem (11.70 percent), Karur (10.29 percetn), Dindugal (8.79 percent), Thanjavur (8.54 percent), Thirunelveli (7.24 percent), Madurai (7.20 percent), Ariyalur (6.52 percent) and Trichy (5.88 percent) also witnessed positive trends in the production of paddy. But nearly, 15 districts such as Coimbatore (-15.51 percent), Kanniyakumari (-17.42 percent), Perambalur (-9.33 percent), Cuddalore (-5.83 percent) and Namakkal (-4.63 percent) recorded depressing trends during the plan period (Table 1).

Table 1: District-wise Area, Production and Productivity of Rice in Tamil Nadu during 8th Five Year Plan to 11th FYP Period

Name of the Districts	Area (ACGR)				Production (ACGR)				Yield (ACGR)			
	8th FYP	9th FYP	10th FYP	11th FYP	8th FYP	9th FYP	10th FYP	11th FYP	8th FYP	9th FYP	10th FYP	11th FYP
Non-NFSM Districts												
Kancheepuram	-8.10	-2.66	1.14	-0.21	-8.95	-1.08	7.28	2.76	-0.92	1.63	6.07	2.97
Thiruvallur		-3.34	0.43	0.13		-5.85	2.64	1.82		-2.60	2.20	1.69
Cuddallore	-13.61	-1.46	0.60	3.31	-22.47	2.38	6.85	-5.83	-10.26	3.89	6.22	-8.84
Villupuram		-2.68	12.42	-2.24		-0.19	15.51	-0.37		2.56	2.75	1.92
Vellore	12.36	-3.44	9.66	-3.04	19.27	-0.24	7.53	0.39	6.15	3.32	-1.94	3.54
TV Malai	9.77	-2.91	20.50	-1.51	12.67	-1.77	25.96	-1.59	2.64	1.18	4.53	-0.08
Salem	-4.49	-0.11	19.97	5.03	-2.41	1.68	20.31	11.70	2.18	1.79	0.28	6.35
Namakkal		-2.29	10.02	-7.81		-0.31	10.53	-4.63		2.03	0.46	3.45
Dharmapuri	4.79	-3.34	-6.92	7.56	8.99	-1.45	-0.40	12.74	4.01	1.96	7.01	4.82
Krishnagiri				6.07				13.91			3.56	7.40
Coimbatore	-8.36	-10.82	-1.11	-16.51	-5.47	-8.40	1.62	-15.58	3.15	2.72	2.76	1.10
Thiruppur				-1.03				-0.83				3.19
Erode	-2.26	-3.68	18.22	-2.55	0.13	-2.75	16.76	-2.86	2.45	0.96	-1.24	-0.32
Tiruchirapalli	-16.31	1.32	6.75	0.85	-17.68	5.81	12.76	5.88	-1.64	4.44	5.63	4.99
Karur		-1.13	1.38	6.57		2.92	5.17	10.29		4.10	3.75	3.49
Perambalur		-0.45	3.17	-19.24		-4.93	16.88	-9.33		-4.50	13.29	12.27
Ariyalur				-0.49				6.52				9.22
Thanjavur	-5.54	1.15	3.37	3.78	-10.10	2.78	13.45	8.54	-4.83	1.61	9.75	4.58
Madurai	-6.15	-3.89	8.87	1.19	-7.55	-2.88	18.99	7.20	-1.49	1.04	9.29	5.94
Theni		-2.56	1.59	0.46		4.73	3.16	5.12		7.48	1.55	4.63
Dindigul	-0.17	-10.21	3.89	2.09	1.31	-10.98	9.04	8.79	1.48	-0.86	4.95	6.56
Virudhunagar	-3.35	-4.09	0.70	1.00	-5.51	-3.84	12.79	4.94	-2.24	0.26	12.01	3.90
Thirunelveli	-8.07	-4.11	6.78	0.71	-8.85	-2.28	7.67	7.24	-0.90	1.90	0.84	6.48
Thoothukudi	-11.82	-10.64	7.74	-0.42	-9.79	-11.47	7.82	5.79	2.31	-0.92	0.08	6.24
The Nilgiris	0.74	4.65	-7.54	-18.51	-4.31	7.13	-8.50	-17.42	-4.94	2.35	-1.04	1.33
Kanniyakumari	-2.80	-2.01	-3.85	-3.97	3.16	0.46	-0.90	-0.02	6.14	2.52	3.07	4.11
NFSM Districts												
Pudukkottai	-3.53	-1.11	4.08	0.87	-6.31	-1.90	12.39	15.94	-2.89	-0.80	7.98	14.95
Thiruvarur		0.76	6.18	4.21		10.01	39.20	20.47		9.18	31.10	15.61
Nagapatinam	-13.84	1.40	3.77	2.00	-25.28	9.66	31.65	14.81	-13.27	8.14	26.87	12.56
Ramnathapuram	-1.98	-2.95	0.67	0.82	-7.99	-18.77	6.91	71.11	-6.13	-16.31	6.20	69.76
Sivagangai	-3.34	-3.21	0.41	1.77	-8.93	-6.35	-4.71	31.48	-5.78	-3.25	-5.10	29.18
Tamil Nadu	-0.10	-1.84	4.96	1.25	-3.13	-0.92	13.07	8.16	-3.03	0.94	7.73	6.82

Source: Source: Department of Economics and Statistics, Government of Tamil Nadu, Chennai-18

Even though the area under paddy crop declined over different plan periods in Tamil Nadu due to urbanisation of area, increasing uncultivable land, the growth performance of paddy production increased specially, after the 10th and the 11th FYP periods, because of effective utilisation of land holdings and quality seeds provided by the government for increasing production of paddy in Tamil Nadu. The agricultural officers in every district of Tamil Nadu effectively implemented the government schemes.

4. Government Spending to the NFSM Scheme in Tamil Nadu

Government spending is one of the important aspects of the different sectors of the economy, and without the government allocation, economic growth is not possible. In recent years, sectoral allocation to the agricultural sectors has declined in relation to the other sectors. About 60 percent of the people of the country mainly depend upon agriculture, but allocation of funds to this sector is very meagre. The Union Government allocation of the funds to the agricultural sectors in absolute terms increased from Rs.21, 068 crores in the 10th FYP to Rs. 50,924 crores in the 11th FYP. But, the percentage share of the agricultural sectors in the total budget allocation declined from 2.5 percent in the 9th FYP to 2.4 percent in the 11th FYP.

Table 2: Government Spending under the NFSM in Tamil Nadu (Rs. in Lakhs)

Year	Allocation Rs.	Achievement Rs.	Unspent Rs.	Percentage
2007-08	709.55	90.48	619.07	-87.25
2008-09	4117.61	2725.42	1392.19	33.82
2009-10	2969.73	2713.27	256.49	8.64
2010-11	2600.26	2251.60	348.66	13.41
2011-12	2144.19	2113.04	31.15	1.45
11th Plan AGR	24.75	18.49	6.27	25.33
2012-13	2262.87	2286.49	-23.62	-1.04
2013-14	2253.97	2236.62	17.36	0.78

Source: Directorate of Commissionrate Office, Government of Tamil Nadu, Chepauk, Chennai-05

Government spending under the NFSM in Tamil Nadu is presented in the Table 2. The financial allocation to the NFSM scheme in Tamil Nadu from the Union Government has shown a remarkable progress since the last seven years. The financial allocation substantially increased by Rs. 1,366.64 lakh from Rs. 709.55 lakh in 2007-08 to Rs. 2,144.19 lakh in 2011-12. During the 11th FYP, there was increase of 67.00 percent. The average annual growth rate of allocation was 24.75 percent and out of that, the government utilized the funds from Rs. 90.48 lakh to 2113.04 lakh, which was an increase of 4.88 percent. It accounted in terms of ACGR to 18.49 percent during the same period. On the other hand, the remaining unspent amount of the government considerably declined from 619.07 lakh in 2006-07 to 31.15 in 2011-12. It further declined to Rs. 17.36 lakh in 2013-14 except in 2008-09 (Rs. 1392 lakh).

During the 11th FYP, the percentage share of financial allocation by the Union Government to the NFSM schemes was 24.75 percent of the ACGR and out of that, 18.49 percent was spent for development of the same scheme. The unspent amount of the Government of Tamil Nadu during that plan period was 6.27 percent. During the 11th plan period, allocation of fund increased in 25.33 percent. It may note that the government was successfully maintaining the account of expenditure for the NFSM schemes in Tamil Nadu.

Table 3: District-wise Plan Outlay and Expenditure under NFSM in Tamil Nadu during 11th Five Year Plan Period (2007-08 to 2011-12) (Rs. in Lakhs)

Name of the Districts	Outlay		Expenditure		Unspent Amount	
	Actual	Percent	Actual	Percent	Actual	Percent
Nagapattinam	3848.86	30.69	2874.08	29.05	974.78	25.33
Thiruvarur	4015.53	32.02	3681.58	37.21	333.95	8.32
Pudukottai	2360.51	18.82	1573.26	15.90	787.25	33.36
Ramanad	1118.25	8.92	957.23	9.68	161.02	14.40
Sivagangai	946.90	7.55	791.95	8.00	154.95	16.36
Headquarters	254.83	2.03	16.56	0.17	238.27	93.50
Total	12540.88	100.00	9893.78	100.00	2647.10	21.11

Source: Directorate of Commissionrate Office, Government of Tamil Nadu, Chepauk, Chennai-05
Note: Figures in the parenthesis indicates percentage to the total

District-wise plan outlay and expenditure under NFSM in Tamil Nadu during the 11th Five Year Plan period (2007-08 to 2011-12) are given in the Table 3. The total outlay for the NFSM in Tamil Nadu was Rs.12, 540.88 lakh during the 11th FYP period. But actual utilization of the fund for the NFSM scheme was Rs. 9,893.78 lakh; in terms of percentage share,

the actual expenditure was 78.89 percent of the outlay and the remaining unspent money was Rs. 2,647.10 lakh (21.11 percent) during the 11th FYP period.

Thiruvarur district was allocated for the NFSM scheme Rs.4, 015.53 lakh (32.02 percent), of which, the highest percentage share of utilization of fund was 37.21 percent by the same district that is Rs. 3,681.58 lakh. Nagapattianam district was allocated Rs.3, 848.86 lakh, and that was 30.69 percent of the total allocation to Tamil Nadu under NFSM. Of that, the district utilized Rs. 2,874.08 lakh, which was 29.05 percent of the expenditure under NFSM. On the contrary, of the actual expenditure under NFSM, the Sivagangai district received the lowest allocation of fund (Rs. 946.90 lakh) and that was 7.55 percent of the outlay under the scheme and the expenditure was Rs. 791.95 lakh (8.00 percent) during the 11th FYP period.

Nagapattinam district was having the unspent money to the tune of Rs.974.78 lakh, (25.33 percent of the outlay). Followed by this Podukottai's unspent money under the scheme was Rs.787.25 lakh during the 11th FYP. The percentage share of the unspent money for the NFSM in Tamil Nadu among the different districts varied from 8.58 percent (Thiruvarur) to 33.36 percent (Pudukottai). In Pudukottai district, nearly one-third of the outlay was unspent. This may have something to do with governance at the project management level and the attitude of the cultivators.

Table 8 shows the category-wise interventions, plan outlay and expenditure in Tamil Nadu for the 11th Five Year Plan (2007-08 to 2011-12). Total allocation of funds for various interventions was Rs. 12,540.89 lakh and the actual expenditure was Rs. 9,893.78 lakh and the remaining Rs. 2,647.11 lakh was unutilized by the government (26.76 percent).

Various farm equipments were provided to the farmers for the better yield; the highest allocation of funds was allocated to the conoweeder Rs.3, 539.44 lakh (28.22 percent) and out of that Rs. 2,277.69 lakh (23.02 percent) was used. The assistance for distribution of the HYV seeds amounted to Rs. 2,572.75 lakh (20.51 percent) and out of which Rs. 2,418.05 lakh were (24.44 percent) were utilized. Pump set was one of the top priorities for the government. The allocation of money for distribution of pump set was Rs.1, 685.50 lakh (13.44 percent) out of which, Rs. 1,484.05 lakh (15.0 percent) were utilized.

Table 4: Category-wise Interventions: Plan Outlay and Expenditure in Tamil Nadu for the 11th Five Year Plan Period (2007-08 to 2011-12) (Rs. in Lakhs)

Category-wise Interventions	Approved Rate of Assistance	Units	Allocation	Spending	Achievement
Demonstrations on Improved Package of Practices	Rs. 2500/-per Demon.	Nos.	142.65 (1.14)	108.47 (1.10)	31.51
Demonstrations on System of Rice Intensification	Rs. 3000/-per Dem.	Nos.	193.80 (1.55)	137.62 (1.39)	40.83
Demonstrations on Hybrid Rice Technology	Rs. 3000/-per Dem.	Nos.	64.68 (0.52)	31.92 (0.32)	102.65
Support for Promotion of Hybrid Rice:					
(a) Assistance for production of (b) Hybrid Rice Seed.	Rs. 1000/-per Qtl.	Qtls	42.99 (0.34)	0.51 (0.01)	8363.39
(c) Assistance for Distribution of (d) Hybrid Rice Seed.	Rs. 2000/-per Qtl.	Qtls	105.47 (0.84)	40.39 (0.41)	161.11
Assistance for Distribution of HYVs Seeds.	Rs. 500/-per Qtl.	Qtls	2572.75 (20.51)	2418.05 (24.44)	6.40
Seed Minikit of HYVs	Full Cost	Nos	190.00 (1.52)		
Seed Minikit of Hybrid Rice	Full Cost	Nos			
Incentive for Micro-Nutrients.	Rs. 500/-per ha	Ha	676.97 (5.40)	627.03 (6.34)	7.96
a. Incentive for Conoweeder and other Farm Implements.	Rs. 3000/-per farmer per implement.	Nos	3539.55 (28.22)	2277.69 (23.02)	55.40
Distribution of pump set	Rs.10000/No	Nos	1685.50 (13.44)	1484.05 (15.00)	13.57
Distribution of Rotovator	Rs.30000/No	Nos	443.40 (3.54)	335.10 (3.39)	32.32
Distribution of Power operated conoweeder	Rs.15000/No	Nos	271.50 (2.16)	245.02 (2.48)	10.81
Distribution of seed drill	Rs.15000/No	Nos	60.75 (0.48)	15.75 (0.16)	285.71
Distribution of knap sac sprayer	Rs.3000/No	Nos	628.75 (5.01)	643.55 (6.50)	-2.30
Assistance for Plant Protection Chemical and bio-agents.	Rs. 500/-per ha.	Ha	921.24 (7.35)	832.30 (8.41)	10.69
Farmers Trainings at FFS Pattern	Rs. 17000/-per	Nos.	118.83	108.10	9.92

	Training.		(0.95)	(1.09)	
Award for best performing Districts	Rs 5.00 Lakhs per year	Nos	15.00 (0.12)	10.00 (0.10)	50.00
Miscellaneous Expenses					
(a) Project Management Team and other Miscellaneous expenses at district Level.	Rs. 6.36 lakh per district.	No. of dist.	142.55 (1.14)	75.83 (0.77)	88.00
b) Project Management Team and other Miscellaneous expenses at State	Rs. 13.87 lakh per State.		44.20 (0.35)	6.56 (0.07)	573.88
Total Rs.			9816.40 (78.28)	7384.61 (74.64)	32.93
Local Initiative			178.70 (1.42)		
Distribution of Power Tiller	Rs 45000/No	Nos	364.50 (2.91)	364.04 (3.68)	0.13
Distribution of Transplants	Rs. 70000/No	Nos	117.80 (0.94)	112.66 (1.14)	4.57
Distribution of Tarpaulin	Rs 2100/No		10.50 (0.08)	10.50 (0.11)	0.00
Distribution of Drum seeder			6.00 (0.05)	5.88 (0.06)	2.13
Power paddy reaper	Rs 35000/No		2.80 (0.02)	2.80 (0.03)	0.00
Sub Total			580.30 (4.63)	396.13 (4.00)	46.49
Grand Total			12540.89 (100.00)	9893.78 (100.00)	26.76

Source: Directorate of Commissionrate Office, Government of Tamil Nadu, Chepauk, Chennai-05,
Note: Figures in the parenthesis indicates percentage

Table 5: Correlation the between Percent Change in the NFSM Expenditure and Irrigation/Fertilizer in Tamil Nadu

Year	Percent Change in total of the NFSM Expenditure	Percent Change in the Net Irrigated Area	Percent Change of Fertilizer
Change over 2006-07	-	-1.06	2.31
Change over 2007-08	-82.77	-0.87	-4.65
Change over 2008-09	38.65	2.30	15.02
Change over 2009-10	14.21	-2.35	-4.20
Change over 2010-11	21.27	1.02	1.22
Correlation Coefficient	0.17	0.34	0.81

Source: Directorate of Commissionrate Office, Government of Tamil Nadu, Chepauk, Chennai-05

Table 5 gives the correlation between the percent change in the NFSM expenditure and irrigation/fertilizer in Tamil Nadu. It is inferred that the total expenditure on the NFSM allocation declined over a period of seven years in the state of Tamil Nadu. The percentage change in the expenditure on the NFSM in Tamil Nadu increased from -82.77 percent in 2007-08 to 14.21 percent in 2009-10, it increased to 21.27 percent in 2010-11. When compared to previous year's allocation of expenditure to the agricultural sector, it was found that there was an increase in terms of expenditure. The correlation coefficient of the value of years and expenditure on the NFSM was found to be 0.17 percent.

During 2006-08 to 2010-11, the percentage change in the net irrigated area in Tamil Nadu exhibited positive growth rate of 2.30 percent and it was 1.02 percent only during two years of 2008-09 and 2010-11, respectively. On the other hand, there was negative growth rate -1.06 percent, -0.87 percent and -2.35 percent during 2006-07, 2007-08 and 2009-10, respectively. The coefficient of correlation between expenditure on the NFSM and percent change in the net irrigated area was positively related (0.34 percent). The coefficient correlation between the fertilizer consumption and the expenditure on the NFSM in Tamil Nadu was positive (0.81 percent). The percentage change in the fertilizer consumption increased to 15.02 percent in 2008-09. The fertilizer consumption sign was negative at -4.65 percent and -4.20 percent during 2007-08 and 2009-10, respectively.

Table 6: Correlation between the NFSM Expenditure, Area and Production of Paddy and Pulses in Tamil Nadu

Year	Percent Change Total of the NFSM Expenditure	Percent Change of Area Ha.	Percent Change in Production Tonnes
		Paddy	
Change over 2006-07	-	-6.16	21.20
Change over 2007-08	-82.77	-7.95	-31.16
Change over 2008-09	38.65	7.37	2.77
Change over 2009-10	14.21	-4.66	8.51
Change over 2010-11	21.27	3.16	2.19
Correlation Coefficient	0.17	0.78	-0.06

Source: Directorate of Commissionrate Office, Government of Tamil Nadu, Chepauk, Chennai-05

The correlation between the NFSM expenditure and area and production of paddy and pulses in Tamil Nadu is shown in the Table 6. The percentage share of area under paddy crop was positive as it was 7.37 percent and 3.16 percent during 2008-09 and 2010-11, respectively. The area was negatively related at -6.16 percent, -7.94 percent, -4.66 percent during 2006-07, 2007-08 and 2009-10 respectively. The production of paddy crop was positively related to the expenditure of the NFSM in Tamil Nadu except in 2007-08. The production rate was negatively related (-31.16 percent) during 2007-08. It implies that even though, the area under paddy crop was negatively correlated the production of paddy increased in all the years except in 2007-08.

5. Summary and Policy Implications

Paddy occupies a predominant position in Tamil Nadu agriculture. But the area under paddy declined over period of time and production level also declined due to urbanization and industrialization and increasing real estate business in the state. During the 11th FYP period, Thiruvarur, Nagapattinam, Sivagangai, Pudukottai and Ramanathapuram districts under NFSM scheme witnessed a positive trend with a small increase in the area. Among Non-NFSM districts like Dharmapuri, Karur, Salem, Thanjavur, Cuddalore, Dindugal and Madurai witnessed a sizable increase in area under paddy.

Ramanathapuram, Sivagangai, Thiruvarur, Pudukottai and Nagapattinam districts under NFSM scheme witnessed high growth rates in the production of paddy. But, the non-NFSM districts like Krishnagiri, Dharmapuri, Salem, Karur, Dindugal, Thanjavur, Thirunelveli, Madurai, Ariyalur and Trichy also witnessed positive trends. Even though the area under paddy crop declined over different plan periods in Tamil Nadu due to urbanisation of area, increasing uncultivable land, the production of paddy increased specially, after the 10th and the 11th FYP periods, because of effective utilisation of land holdings and quality seeds provided by the government for increasing production of paddy in Tamil Nadu.

Government spending under the NFSM scheme in Tamil Nadu had shown a remarkable progress since the last seven years. The allocation was 24.75 percent and out of that, 18.49 percent was spent during the 11th FYP. The unspent amount was 6.27 percent. Thiruvarur and Nagapattianam districts were allocated 32.02 percent and 30.69 percent, respectively. Of that, the districts utilized were 29.05 percent and 8.32 percent, respectively. On the contrary, Sivagangai district received the lowest allocation of fund (7.55 percent).

The share of the unspent money among the different districts varied from 8.58 percent (Thiruvarur) to 33.36 percent (Pudukottai). In Pudukottai district one-third of the outlay was unutilized. This may have something to do with governance at the project management level and the attitude of the cultivators.

Total allocation of funds for various interventions was Rs. 12,540.89 lakh and the actual expenditure was Rs. 9,893.78 lakh and the remaining Rs. 2,647.11 lakh were unutilized by the government (26.76 percent). Conoweeder received the highest allocation (28.22 percent) but the amount utilized was only 23.02 percent of the outlay. HYV seeds amounted to 20.51 percent. The allocation to pumpset was 13.44 percent.

The percentage change in the expenditure on the NFSM in Tamil Nadu increased from -82.77 percent in 2007-08 to 21.27 percent in 2010-11. The correlation coefficient of the value of years and expenditure on the NFSM was found to be 0.17 percent. The coefficient of correlation between expenditure on the NFSM and percent change in the net irrigated area was positively related at 0.34 percent. The coefficient correlation between the fertilizer consumption and the expenditure on the NFSM was positive at 0.81 percent.

Though the scheme as a whole has succeeded, the study has come out with many implications. The NFSM farmers have experienced many difficulties availing the benefits of the scheme. Over a period of time, a number of schemes have been launched by the Union and State Governments in India. Government spending on the NFSM scheme is to be increased for

all these districts in Tamil Nadu. The Government should utilized the whole amount allocated for the scheme. If the state government is more proactive to strengthen and expand this scheme in Tamil Nadu; it will certainly help the farmers as well as the economy as whole in increasing the input use, production, productivity and income.

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